

IN THE CLAIMS

1. (Currently Amended) A method of forming an electrical contact, comprising:

mounting a plurality of electrical contacts on a substrate; and

induction heating the electrical contacts for a predetermined period of time to heat different first and second portions of each of the electrical contacts by different first and second amounts;

generating time-varying magnetic fields within an annealing region extending in a substantially parallel field direction; and

orienting the electrical contacts during said induction heating step, such that a plane containing each of the electrical contact is parallel to the field direction.

2. (Cancelled)

3. (Cancelled)

4. (Previously Presented) The method of claim 1 wherein said induction heating step heats the first portion of each of the electrical contacts such that the first portion exhibits superior strength properties as compared to the second portion and heats the second portion such that the second portion exhibits superior stress-relaxation properties as compared to the first portion.

5. (Currently Amended) ~~The method of claim 1,~~ A method of forming an electrical contact, comprising:

mounting a plurality of electrical contacts on a substrate; and

induction heating the electrical contacts for a predetermined period of time to heat different first and second portions of each of the electrical contacts by different first and second amounts, wherein said induction heating step includes generating a time-varying magnetic field through which the electrical contacts are continuously moved.

6. (Currently Amended) ~~The method of claim 1,~~ A method of forming an electrical contact, comprising:

mounting a plurality of electrical contacts on a substrate; and

induction heating the electrical contacts for a predetermined period of time to heat different first and second portions of each of the electrical contacts by different first and second amounts, wherein said induction heating step includes generating a magnetic field through which the electrical contacts are indexed in a stepped manner.

7. (Cancelled)

8. (Previously Presented) The method of claim 1, further comprising: shaping the electrical contacts to include a base portion and knee portion aligned within a common contact plane; and

passing each of said electrical contacts through a magnetic field created in the induction heating step with the contact planes being aligned parallel to a direction of the magnetic field.

9. (Previously Presented) The method of claim 1, further comprising shaping each of the electrical contacts with a flexible portion extending forward from a base portion of the electrical contact, and orienting the electrical contacts such that the flexible portion enters magnetic fields created during the induction heating step before the base portion enter the magnetic fields.

10. (Previously Presented) The method of claim 1, further comprising:
orienting the electrical contacts such that one end of each of the electrical contacts is exposed to higher intensity magnetic fields created during the induction heating step and such that an opposite end of each of the electrical contacts is exposed to weaker intensity magnetic fields.

11. (Previously Presented) The method of claim 1, further comprising, during the induction heating step, passing the electrical contacts through a magnetic field having a field intensity gradient extending along a length of each of the electrical contacts.

12. (Previously Presented) The method of claim 1, wherein the induction heating step includes creating a time-varying magnetic field having a field intensity gradient extending in a first direction, and passing the said electrical contacts through said magnetic field in a conveyance direction perpendicular to said first direction.

13. (Currently Amended) A method for fabricating a contact component, comprising:

mounting a plurality of contacts onto a substrate, said substrate being insensitive to magnetic fields; ~~and~~

induction heating of each said contacts by different first and second amounts without induction heating said substrate; and

orienting said plurality of contacts such that a contact plane of each of said contacts is parallel to a direction of magnetic fields created during said induction heating step.

14. (Previously Presented) The method of claim 13 further comprising
orienting said plurality of contacts such that a central flexible portion of each of said contacts first entering an induction field created during said induction heating step before a remaining portion of each of said contacts enters the induction field.

15. (Cancelled).

16. (Cancelled)

17. (Previously Presented) The method of claim 13, wherein said induction heating step includes reducing internal stresses in each of the contacts by a first amount in first portions of each contact and by a different second amount in second portions of each of said contacts, such that the first portion of each of the micro contacts exhibits superior strength properties as compared to the second portion, while the second portion of each of the contacts exhibits superior stress relaxation properties as compared to the first portion.

18. (Previously Presented) The method of claim 13, wherein said induction heating step includes generating a time-varying magnetic field extending in a field direction and passing said contacts through said magnetic field along a conveyance direction perpendicular to the field direction.

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Previously Presented) The method of claim 1, wherein the mount step includes aligning each of the contacts along a contact longitudinal axis that extends away from a plane containing the substrate.

30. (Currently Amended) ~~The method of claim 1,~~ A method of forming an electrical contact, comprising:

mounting a plurality of electrical contacts on a substrate; and

induction heating the electrical contacts for a predetermined period of time to heat different first and second portions of each of the electrical contacts by different first and second amounts, wherein said induction heating step heats the first portion of each of the electrical contacts such that the first portion exhibits superior strength properties as compared to the second portion.

31. (Currently Amended) ~~The method of claim 1,~~ A method of forming an electrical contact, comprising:

mounting a plurality of electrical contacts on a substrate; and

induction heating the electrical contacts for a predetermined period of time to heat different first and second portions of each of the electrical contacts by different first and second amounts, wherein said induction heating step heats the second portion such that the second portion exhibits superior stress-relaxation properties as compared to the first portion.

32. (Previously Presented) The method of claim 1, further comprising: shaping the electrical contact to include a base portion and knee portion aligned within a common contact plane.

33. (Previously Presented) The method of claim 13, wherein the mount step includes aligning each of the contacts along a contact longitudinal axis that extends away from a plane containing the substrate.

34. (Currently Amended) ~~The method of claim 13,~~ A method for fabricating a contact component, comprising:

mounting a plurality of contacts onto a substrate, said substrate being insensitive to magnetic fields; and

induction heating of each said contacts by different first and second amounts without induction heating said substrate, wherein said induction heating step heats a first portion of each of the electrical contacts such that the first portion exhibits superior strength properties as compared to a second portion of each of the electrical contacts.

35. (Currently Amended) ~~The method of claim 13,~~ A method for fabricating a contact component, comprising:

mounting a plurality of contacts onto a substrate, said substrate being insensitive to magnetic fields; and

induction heating of each said contacts by different first and second amounts without induction heating said substrate, wherein said induction heating step heats a second portion of each of the electrical contacts such that the second portion exhibits superior stress-relaxation properties as compared to a first portion of each of the electrical contacts.

36. (Previously Presented) The method of claim 13, further comprising: shaping the electrical contact to include a base portion and knee portion aligned within a common contact plane.